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ABSTRACT

In October 1970, the Agricultural Sciences Information Network (ASIN) Committee was established by the joint landgrant/USDA Agriculture Research Policy Advisory Committee (ARPAC). The ASIN Committee was directed to review various network concepts as a means of improving information services to professional agriculturalists in the private and public sectors and to develop detailed plans for implementing a cooperative information system. The Committee stressed the improvement of service to the ultimate user of research information. Building upon recommendations of an earlier study by the Interuniversity Communications Council (EDUCOM), the ASIN Committee has recommended that the National Agricultural Library (NAL) serve as the coordinator in a network plan. NAL's function would be to continue to assist other information services in providing less common documentary materials, and to coordinate the plans for developing services in greater depth and breadth. The network as recommended can be described in terms of five broad components: (1) Libraries; (2) Research and development in information science and services; (3) Information analysis centers; (4) Integrated knowledge services (a kind of directory and referral activity); and (5) International cooperation. (Author/SJ)

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A progress report on the

AGRICULTURAL SCIENCES INFORMATION NETWORK

August 1971
NAL USDA
Beltsville, Md.

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Introduction

In October 1970, the Agricultural Sciences Information Network (ASIN) Committee was established by the joint land-grant/USDA Agriculture Research Policy Advisory Committee (ARPAC). The ASIN Committee was directed to review various network concepts as a means of improving information services to professional agriculturalists in the private and public sectors and to develop detailed plans for implementing a cooperative information system. The resulting Committee recommendations are summarized briefly in this report.

The Information Problem

Since World War II, the scientific community has grown enormously as have its recorded products. But the supporting structures, the libraries and similar information services, have not kept pace in their efforts to collect, analyze and disseminate the results of scientific research.

Many of the inadequacies of the more traditional information services were well understood by the architects of the county agent system. Long before America mobilized its science in war, it had done so to make scientific knowledge work for peace by creating a system of land-grant

institutions, agricultural experiment stations and extension personnel which serves as a model for the world.

Today, however, there are new elements which promise not only to revitalize libraries but which can amplify their utility and supplement for their defects. Electronic computers and communications technology now make recorded information available in new and more powerful ways. With this technology and with suitable institutional cooperation, the information in any library, information analysis center or research file in the country or the world can be obtained quickly. The result may be more and improved local information resources with the capability to access the total available network of data bases rather than larger centralized information files.

A National Solution

At times it has been suggested that the United States should develop one massive, centralized organization to handle all scientific information. It seems certain that such an approach, purportedly successful in the Soviet Union, would fail here. Americans, and perhaps American

scientists most of all, have a healthy distrust of centralization of power and, instead, favor cooperation among the many existing information services and programs.

Those concerned with scientific information in this country look not towards a single agency, or even a single network of information agencies, but to a fabric, ever-changing, consisting of many interconnecting and overlapping networks, organized by discipline in some cases, by mission in others, and by type of media in still others. Some nodes and some networks will develop as they are needed; others, if unused, will atrophy and die.

Because of its size, its value, and the diversity of its concerns, we may expect the agricultural research community to develop its information network to serve a wide audience over a long time, and hence, to become one of the country's more valuable and more stable information resources, both for agriculture and for many related disciplines. An informal network of agricultural information agencies exists. Libraries, specialized information centers, and similar activities in the land-grant institutions, in

the Department of Agriculture and in other organizations cooperate to a high degree in sharing their resources. In order to make these cooperative efforts cohesive and efficient, more formal ties need to be established, and better coordination developed. It was with these purposes in mind that the Agricultural Sciences Information Network Committee was created.

ASIN Committee Recommendations

The Committee has put great stress on the improvement of service to the ultimate user of research information. It sees the network's purpose in these terms rather than as merely an aid to the organizations involved. At the same time, it is recognized that the user's needs are likely to be met most effectively by a service which is geographically and administratively close to him. Thus, the integrity of each node in the developing network must be enhanced, rather than weakened, by any network arrangements to be made. The network, like a chain, will be strong in terms of the strength of its individual parts.

Building upon recommendations of an earlier study by the Interuniversity Communications Council (EDUCOM), the ASIN Committee has recommended that the National Agricultural Library (NAL) serve as the coordinator in a network plan. NAL's function would be to continue to assist other information services in providing less common documentary materials, and to coordinate the plans for developing services in greater depth and breadth.

The Network as recommended can be described in terms of five broad components:

(1) Libraries;

(2) Research and development in information science and services;

(3) Information analysis centers;

(4) Integrated knowledge services (a kind of directory and referral activity);

(5) International cooperation.

The Agricultural Libraries Network

The ASIN Committee recommends the immediate establishment of an Agricultural Libraries Network as a first step in

the development of the Agricultural Sciences Information Network.

Since the turn of the century, many of the land-grant libraries have cooperated extensively and effectively with the National Agricultural Library. The need for cooperative efforts, the possibilities of success, and the eagerness to provide shared services are fairly evident within this group. The Agricultural Libraries Network would attempt to extend, formalize and build on past relationships and agreements in order to improve over-all service and operating efficiency. As formal and authorized depositories for printed information, the libraries of the land-grants and of the USDA continue to hold a central place of importance. This community of libraries offers the best potential for literature services needed by the serious agricultural scientist, and should be the principal consideration in the creation of an information network. Membership could be expanded to include other agricultural libraries after the network had been initially established.

The principal goals of the Agricultural Libraries Network are:

- To provide agriculturalists with a wider range of literature and other informational sources.
- To provide users with speedy responses to requests that require inter-institutional assistance.
- To inform agricultural information users and librarians about the range of services and information available to them, and to provide for ready access on a priority basis.
- To provide the land-grant libraries and the National Agricultural Library with the means to develop more equitable and responsive use of their research collections and services.
- To refine, augment, and create among the libraries those services which are best adapted to a cooperative or networking mode.

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Improvement in library operations must manifest itself in improved services to the patron. The network will provide libraries with the leadership and organization to concentrate on efforts too large for them to undertake individually, and to share the benefits and costs through greater efficiency and utility. User satisfaction with the services should be constantly viewed as the prime influence on the network and a valid measure of network success.

Research and Development Program

The ASIN Committee recommends implementation of a research and development program in information to support the Network.

The single institutional problems of reliable data and organizational structure are compounded with the libraries network. Although State library networks and one national library system allow for some experience factors, they do not offer an adequate analogy. Study, demonstrations, research and pilot programs are required to determine how the network members can efficiently and effectively utilize their resources in a networking mode. Many services envisioned for the Agricultural Libraries Network as well as the Agricultural Sciences Information Network will require a systematic research, trial,

evalustion, and redesign process. The Research and Development Program will fulfill this role prior to full implementation wherever necessary. The major goals of this program in support of network development are:

- To identify current research programs in information and library science of interest to the network.
- To identify and rank the problem areas requiring additional research or development.
- To develop systematic feasibility or testing plans for all aspects of potential network activities.
- To run pilot systems or field tests in order to provide a firm basis for full implementation.
- To develop guidelines for assessing the effectiveness of the network.

The ASIN Committee feels that efforts in this area should proceed concurrently with implementation of the Agricultural Libraries Network.

Information Analysis Center Network

The past decade has seen a dramatic increase in the importance of the analysis and evaluation of literature and bibliographic sources in scientific and technical information systems. These units analyze or synthesize information from

literature sources upon the request of scientists. By-products often include sophisticated abstracting, indexing or announcement tools geared to a speciality within a discipline. This process or repackaging for specific users is usually accomplished by or in consultation with specialists in the discipline. The agricultural community does not have such Centers officially designated and operating at this time although select units on campuses and within the USDA separately perform some of these functions. The necessity for this type of service in currently important sub-disciplines can be observed. Not as evident is how the coordination or new structure might effectively be brought together with adequate funding and support.

The ASIN Committee feels the need to explore carefully the IAC concept, and how Centers might best fit into the structure and organization of the agricultural community. While this component should be considered an integral part of the total network concept, the Committee does not recommend priority action in this area.

Integrated Knowledge Services

Effective access to and utilization of specialized information services must involve libraries, information analysis centers and other special-purpose units such as data

banks and computer networks. The agencies which a scientist must contact for individual pieces of information or access to sources are so numerous as to discourage pursuing more than a few. The Agricultural Sciences Information Network should attempt, as a long-range goal, to unify or consolidate those approaches, and be able to give timely and reasoned referrals to appropriate sources which will serve individual and specialized needs. This will require the maximum application of modern methods, especially computer and communications technologies, for the collection, processing and dissemination of information and data. The ASIN Committee realizes the importance of this undertaking and the potential savings to the agricultural research community. The Committee also realizes the difficulty of the task and recommends that minimal effort be expended in this area for the first two years of network development.

International Cooperation

The Food and Agriculture Organization of the United Nations (FAO) recently announced preliminary plans for the establishment of an international information system for the agricultural sciences. The central theme of this project is the international deployment of science information resources.

Planning for an international agricultural library network has also begun. In October 1971, a conference will be held to discuss a World Science Information System (UNISIST) which has been proposed as the result of a four-year feasibility study. The U.S. agricultural information community must play an influential role in these deliberations.

The ASIN Committee feels, however, that the international aspects of the Agricultural Sciences Information Network must not take precedence over national needs. The Committee recommends that the international program be confined at present to the representation or support now provided by the National Agricultural Library.

Conclusions

Spoken and visual communication media have influenced the speed and method of interchanging information in the educational and research fields. However, economic, professional and other factors have limited the influence and effectiveness of these forms of information exchange. Printed material, publications and literature collections continue to hold prominence, a state not subject to drastic change in the immediate future.

The concepts of the Agricultural Sciences Information Network offer the best solution to the information and

literature problems of agricultural scientists. Through a formal network constituted of the land-grant institutions and the USDA, the long history of productive relationship between these two parties can be extended in a common effort.

The AGRIN Committee firmly recommends the establishment of the Agricultural Sciences Information Network to serve professional agriculturalists in the public and private sectors. The Network will:

- Develop plans and programs for markedly enhancing the quality and quantity of information relating to agriculture.
- Provide for the dissemination and utilization of this knowledge through a national information network.
- Provide for additional and improved information services beyond those now available to the agricultural community.

The AGRIN Committee realizes the ultimate need for implementation of all of the program components described

herein and recommends some activities or minimal efforts with each. During the initial two years, however, primary emphasis must be centered on the Agricultural Libraries Network and the Research and Development Program to foster their careful creation.

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